

Technical Description for Study on the Application of Common Balancing Zone rules in the Baltic States

Elering AS (on behalf of Elering AS; AS Conexus Baltic Grid;
AB "Amber Grid")

Customer Reference: Procurement Ref. 195677

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Customer Details

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DNV GL Company Details

DNV GL Legal Entity:	KEMA Consulting GmbH
DNV GL Organisation Unit:	Energy

About this document

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1 INTRODUCTION

KEMA Consulting GmbH operates as part of the DNV GL Group under the name “DNV GL – Energy” (herein after referred to as “DNV GL”) and is pleased to provide Elering AS (on behalf of Elering AS; AS Conexus Baltic Grid; AB “Amber Grid”) this proposal for developing a ‘Study on the Application of Common Balancing Zone Rules in the Baltic States’, based on the Call for Proposal (CfP) provided by Elering.

This document is structured as follows:

- Section 2 describes our proposed approach and workplan for this study, incl. a specification of our deliverables.
- Section 3 contains an indicative project time schedule.
- Section 4 presents the proposed project team.

2 THE DNV GL PROPOSED SOLUTION

2.1 Introduction

In this section, we present our approach and methodology to conduct the study. In line with CfP, the project will be structured in two phases as follows (see Figure 1):

- Design Phase: Development of a framework proposal for commercial and operational balancing in a combined balancing zone for the Baltic States (+ Finland)
- Implementation Phase: Development of draft rules and templates, which are will be required for implementation of the proposed design developed in the design phase.

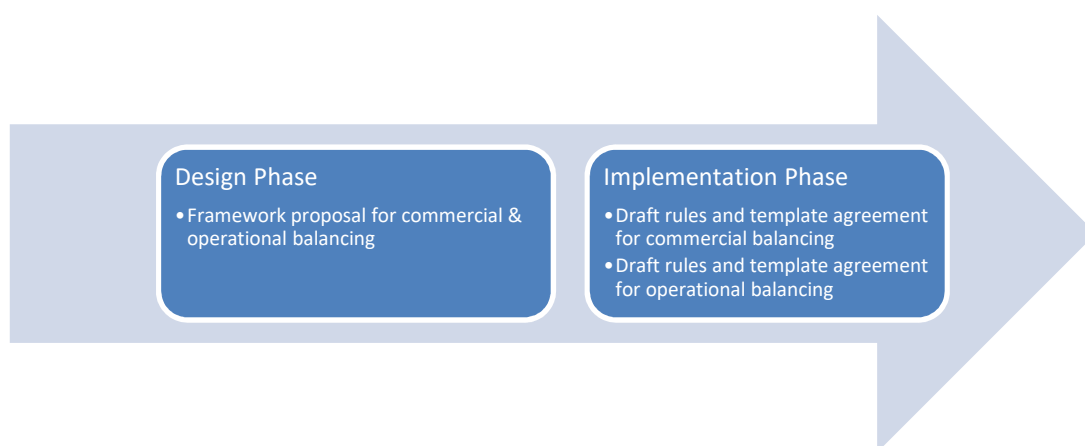


Figure 1: Principal structure of work under the study

The remainder of this section 2 is structured as follows: In section 2.2, we present our proposed workplan and the overall approach, which we suggest taking for each of the two phases, whereas section 2.3 summarises the formal deliverables of this study.

2.2 Work Plan

2.2.1 Design Phase

In the first phase of the project, the DNV GL team will review and refine the existing framework proposal for commercial balancing and operational balancing. Starting from the existing high level concept model developed by the TSOs, we will review the existing proposals for consistency, completeness and compatibility with the requirements of applicable EU legislation. In addition, we will also consider stakeholder comments received by the three TSOs during the recent public consultation of the concept model and the situation in the Baltic States (and Finland), with the aim of identifying potential gaps and issues (see Figure 2).

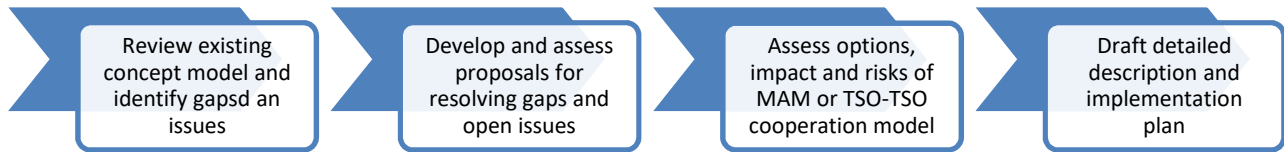


Figure 2: Key activities in the Design Phase

Where any corresponding issues are identified, we will then identify, assess and recommend suitable solutions. For this purpose, we will also rely on experiences from gas balancing arrangements in other EU countries or relevant examples of regional integration of EU electricity balancing markets. All corresponding options will furthermore be reviewed and checked against relevant technical characteristics and constraints of the gas transport networks in the region, for instance with regards to grid topology, technical capacities, and possible supply/demand/transit scenarios. Where necessary and useful, this may also involve the use of simplified flow simulations. Please note, however, that the scope of such quantitative analysis will be limited to balancing, whereas any fundamental issues with regards to determination of entry/exit capacities and associated congestion management are beyond the scope of this study.

Whilst the existing concept model already covers many issues, many other aspects will still need to be addressed by this study, including in particular:

- Specification of products required for operational balancing, which besides VTP title products may also include locational products or tailored balancing services,
- Process, timeline and principles for offering, selection and settlement of balancing products,
- Process, timeline and principles for determination and settlement of imbalances, incl. methodology for imbalance pricing,
- Methodology and procedures for ensuring financial neutrality of the balancing process, incl. potential offsetting payments between the individual TSOs,
- Process, timeline and principles for dispatch coordination and operational balancing between the three TSOs and the MAM (where applicable), incl. arrangements for back-up and crisis management,
- Potential impact of integrating Finland into the common balancing zone, for each of the areas mentioned above.

As stated in the CfP, the Baltic TSOs have not yet decided whether they will (immediately) establish a separate legal entity as Market Area Manager (MAM), or whether they will at least initially rely on a TSO-TSO coordination model. As a third part of the activities in the design phase, the DNV GL will thus check for possible consequences of these two fundamental approaches for all parts of the balancing arrangements. Where any relevant differences are identified, these will be documented and assessed, incl. an analysis of different options (where applicable) and of relevant risks. In line with our earlier intervention at a meeting of the responsible task force in June 2017, we propose to consider experience from other European gas and electricity markets in this context, especially since there is significantly more experience with regional integration of balancing zones in the EU electricity markets.

Throughout these activities, we will also identify and assess relevant risks, and propose and evaluate potential mitigating measures.

As a last activity under this phase, we will develop an implementation plan for the proposed market model and draft the Design Phase Report. This report will specify, explain and justify our recommended framework proposal for commercial balancing and operational balancing in a common balancing zone. When developing the implementation plan, we will also check the current legal and regulatory framework in each of the three (or four) countries for possible regulatory or other barriers, and suggest possible solutions to overcome such issues.

The key elements of the Design Phase Report, which will cover and summarise all aspects and all parts of the analysis under Phase 1 and will be complemented by suitable charts and diagrams (compare Figure 3), will be the following:

- High-level description of the framework proposal, incl. an outline of the overall structure, functionalities, roles and responsibilities, contractual relationships and data exchanges between market participants, between TSOs and market participants, and between TSOs,
- Detailed description and justification of the proposed framework for commercial and operational balancing in the common balancing zone,
- Identification and assessment of open issues and risks regarding the common balancing zone, and proposed risk management measures,
- Detailed description and justification of relevant differences between the use of the MAM or the TSO-TSO cooperation model (for each of the above), and of possible transition measures when moving from the TSO-TSO cooperation to the MAM model at a later stage,
- Proposed implementation plan.

As stated above, our recommendations will start from the existing concept model developed by the TSOs. Where our final recommendations deviate from the original proposals, we will clearly identify and explain or justify such changes.

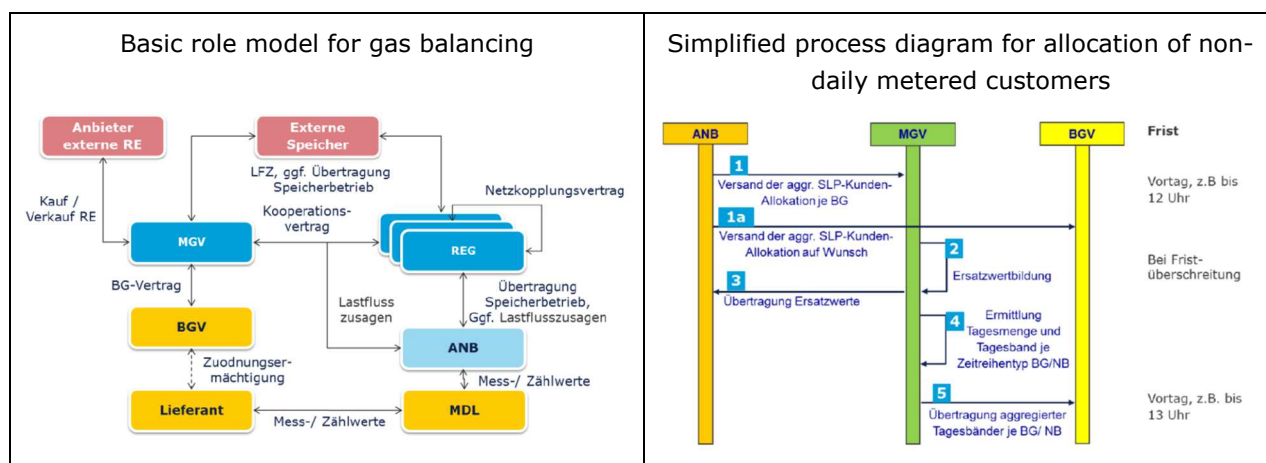



Figure 3: Example of role model and simplified process diagrams for gas balancing (Switzerland)

Source: DNV GL



A first draft of the Design Phase Report will be submitted to the TSOs in preparation of the second workshop. Based on the feedback received from and the discussions with the TSOs before, during or after the workshop, we will then produce a final version of the Design Phase Report. Once approved, this report will provide the basis for the subsequent work in the Implementation Phase.

2.2.2 Implementation Phase

Based on the framework proposal developed in the Design Phase, the Implementation Phase essentially serves to draft the necessary rules and template agreements that are required to implement the recommended solution. Based on the CfP, we understand that this shall principally cover the following four documents:

- Commercial Balancing Rules,
- Operational Balancing Rules,
- Template for standard balancing contract (between TSOs and balance responsible parties)
- Draft Inter-TSO agreement on balancing and dispatching.

We understand that the two sets of balancing rules will serve to specify and govern the role and responsibilities of all relevant actors, the contractual relationships and interactions (processes, data exchange) between different parties, timelines, and the scope and format of data to be exchanged between and/or published by different parties. Moreover, we understand that the first set of rules shall basically contain all relevant provisions for commercial balancing (leading to imbalance settlement), whereas the operational balancing rules shall deal with all relevant conditions and processes for operational balancing by the TSOs.

Whilst the rules will provide the overall basis, the two draft agreements will govern the bilateral relationships between individual BRPs and the TSOs (or the MAM), respectively the bi- or multilateral relations between the three (or four) TSOs.

Based on the specifications in the CfP, Table 1 presents an indicative outline of these documents. Please note that the scope and structure of the balancing rules has been slightly adjusted based on DNV DL experience, and that we expect a potential need for further adjustments. We therefore suggest that the final scope and structure of these documents will be discussed as a first activity of this Phase (compare Figure 4 below), i.e. during or after the second workshop.


Table 1: Indicative scope of documents to be drafted in the Implementation Phase

Commercial balancing	Operational balancing
Draft commercial balancing rules, incl. <ul style="list-style-type: none"> • Definitions • Roles and responsibilities • Contractual relationships • Registration of balance responsible parties • Registration of network users with balance responsible parties • Trade notifications • Nomination and re-nomination • Forecasting of non-daily metered offtakes • Data exchange model and information provision • Imbalance settlement (incl. determination of imbalances, imbalance pricing, and financial settlement) • Financial neutrality 	Draft operational balancing rules, incl. <ul style="list-style-type: none"> • Definitions • Roles and responsibilities • Contractual relationships • Specification of balancing products and flexibility services • Registration of balancing service providers (if different from BRPs) • Procurement of balancing products and flexibility services (<ul style="list-style-type: none"> ◦ Bidding ◦ Selection ('merit order', deviation from merit order for congestion management) ◦ Commitment / contracting ◦ Settlement • TSO-TSO coordination • Emergency and back-up provisions • Operational balancing accounts • TSO-TSO settlement • Financial neutrality
Standard balancing contract (template)	Draft contract for operational balancing and dispatching (inter-TSO agreement)

As illustrated by Figure 4, we propose the following general approach for drafting the different rules and agreements:

- In a first step, we will propose and discuss the scope and structure of the different documents with the TSOs.
- In a second step, we will produce an incomplete draft of one set of rules and one of the agreements at an early stage (e.g. within 10 days), which will then be shared for review with the TSOs. By making these first templates available, it will be possible to incorporate any feedback by the TSOs at an early stage already and tailor the style and form of the documents to the needs and expectations of the TSOs.
- In a third step, we will produce a complete draft of all four documents, which be submitted to the TSOs for review. In practice, we will aim at preparing and releasing these documents step by step, i.e. such that the first documents will be made available to the TSOs well in advance of the official deadline.
- Based on the feedback received by the TSOs, we will produce a final version of each document.

**Figure 4: Key activities in the Implementation Phase**



When drafting these documents, our experts will rely on their experience from similar projects for the gas and electricity markets throughout Europe and elsewhere. In addition, we would hope to receive copies of similar documents from the three TSOs, i.e. if so desired to adjust to the form and style of those documents.

We furthermore emphasize that the scope of our services will be limited to providing a 'functional draft' of the different documents. In contrast, our services do not include the final legal check and wording of the rules or agreements, as this requires specialised legal advice and detailed knowledge of the legal possibilities and conditions in all of the countries concerned.

Though technically not being part of the Implementation Phase, this second phase of the project will conclude with the final workshop. We understand that the scope, location and date of this final workshop will be agreed during the project. However, we expect that it will serve to present all outcomes of this project, i.e. that it may not necessarily be limited to the Implementation Phase.

2.3 Deliverables

DNV GL will provide the following formal deliverables:

- Draft and final version of Design Phase Report, incl.
 - Concept/framework proposal for commercial and operational balancing,
 - Where applicable, attachments with conducted quantitative analysis (in the form of separate spreadsheet files),
- Draft and final version of Implementation Phase Report, each incl.:
 - Draft balancing rules,
 - Template for standard balancing contract,
 - Draft operational balancing rules,
 - Template for inter-TSO agreement.

In addition, the DNV GL team will participate in at least three physical meetings / workshops in the Baltic States (Tallinn, Riga or Vilnius). For each workshop, as well as for interim tele- or webconferences where applicable, DNV GL will provide PowerPoint presentations. Similarly, DNV GL will take and subsequently distribute minutes during each workshop, tele- or webconference.

All deliverables will be provided electronically and will be provided in the English language. DNV GL will use standard MS Office formats (e.g. MS Word, MS Excel or MS PowerPoint). The final version of all deliverables will be provided in pdf format.

3 TIME SCHEDULE

In accordance with the CfP, we foresee the following timeline of activities and milestones, as illustrated in Table 2. Please note that all dates specified in Table 2 are indicative and will need to be jointly agreed by DNV GL and the clients at the start of and/or during the project. We furthermore note that the dates and deadlines specified in Table 2 depend on timely feedback and approval of interim deliverables by the TSOs; in case such feedback and/or approvals are delayed, the deadlines for subsequent activities and milestones may have to be adjusted accordingly.

Table 2: Proposed schedule of activities and milestones

Action	Type (duration)	Timing / Deadline
Project inception	Activity	Starting immediately after contract signature
Kick-off meeting	Workshop	10 days after contract signature
Work on design phase	Activity (30 days)	Starting immediately after kick-off meeting
Submission of draft Design Phase Report	Milestone	30 days after kick-off meeting (but not earlier than 25 days after minutes of kick-off meeting have been approved by TSOs)
Discussion and acceptance of (final) Design Phase Report	Workshop	40 days after kick-off meeting (but not earlier than 35 days after minutes of kick-off meeting have been approved by TSOs)
Work on implementation phase	Activity (40 days)	Starting immediately after 2 nd workshop
Submission of draft Implementation Phase Report	Milestone	40 days after approval of final Design Phase Report
Comments to draft Implementation Phase Report (by TSOs)	Activity	-
Preparation of final Implementation Phase Report	Activity (20 days)	Starting after having received written comments by the TSOs
Submission of final Implementation Phase Report	Milestone	15 August 2018, but not earlier than 20 days after having received complete written comments on the draft report from the TSOs
Final workshop	Workshop	August 2018, exact date to be agreed

To ensure effective communications and coordination throughout the project, we furthermore expect to hold tele- or webconferences, e.g. on a weekly basis. The scope, form, frequency and timing of these technical calls will be agreed during the kick-off meeting.

4 PROJECT ORGANIZATION

4.1 Proposed Project Team

DNV GL has assembled a team of highly experienced professionals in all required areas. The resources comprise expertise from DNV GL's dedicated units working in the requested areas. If deemed necessary, DNV GL can draw from a pool of additional experts located all over the world.

The proposed project team organization is illustrated in Figure 5 below. As illustrated, the project will be led by Christian Hewicker who has led many important projects throughout Europe. Moreover, he has got more than 15 years of experience in the design and implementation of gas and electricity balancing markets in Europe, as well as in conceptual design for regional integration of wholesale and balancing markets. As indicated in Figure 5, the three other experts will each focus on one particular area. Holger Ziegler has 10 years of experience in the design, implementation and analysis of balancing markets, incl. the design of gas balancing arrangements for Austria and Switzerland, whereas Martin Paletar has a broader background in gas markets and economic analysis. Nebojsa Filipovic has practical experience and more than 10 years of consulting experience around the operations of TSOs in liberalized markets, with a particular focus on processes, IT systems, and the development of rules and procedures.

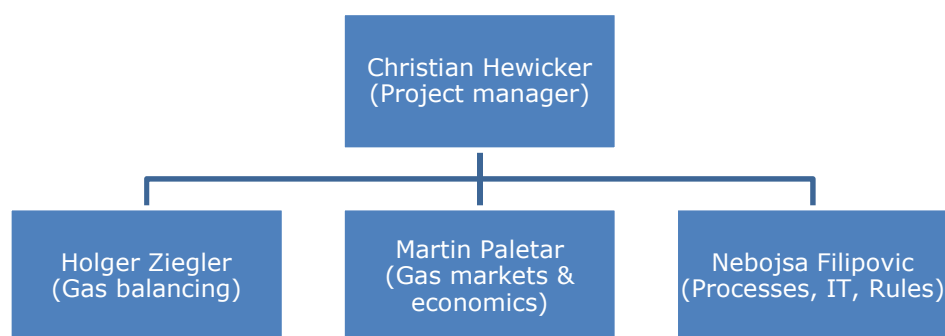


Figure 5: Proposed project team

The resources listed above are based on DNV GL's current availability schedule. Should project personnel availability change at the time of contract award or during the project execution, DNV GL will inform the customer of the change in resources. DNV GL will aim to find resources with the same level of competence as the resources listed.

4.2 Key Personnel

This section gives a brief presentation of proposed project members. For detailed CV's refer to the separate document.

Christian Hewicker

Christian Hewicker is an expert focusing on the design of liberalised energy markets, with particular emphasis on the interrelation between technical and commercial functions. He combines experience in the areas of market design, regulation, network access and pricing, technical and commercial market rules and electricity trading with profound knowledge of the technical operation of electricity and gas networks. He has a deep knowledge of the gas and electricity markets and power systems in most European countries and is an expert in the area of ancillary services and balancing markets. Moreover, he has recently led several studies investigating the feasibility and impacts of progressively decarbonizing the European power sector by 2050. In his projects, he has advised a large numbers of governments, regulators, system and market operators as well as market participants and investors across Europe and elsewhere.

Holger Ziegler¹


Holding a university degree in Business Engineering (equivalent to a Masters), Holger Ziegler joined DNV GL in April 2008. Since then he has been involved in various projects and has worked with diverse clients such as European regulators, TSOs, utilities, EU DG Tren and European Bank for Re-construction and Development both in Germany and abroad.

He has acquired particular competence in European ancillary services and balancing markets, European wholesale markets as well as renewable energies and corresponding incentive schemes. Amongst others, he was involved in the design of the arrangements for gas balancing in Austria and Switzerland, but has also been involved in a large number of projects on national and regional markets for electricity balancing and ancillary services. In addition, Mr. Ziegler has specialised on the integration of renewable sources into energy systems, comprising of legal, regulatory and market-related aspects of renewables integration. He has provided assistance to several entities in analysing market conditions and the legal and regulatory landscape on renewable energies. Moreover, he has been active in developing support schemes for sustainable energies, for instance by providing international best practice or quantifying feed-in tariffs for electricity from renewable technologies. Throughout the projects realised so far, Mr. Ziegler has applied analytical, conceptual, quantitative and model-based approaches and has partially fulfilled project management functions.

Martin Paletar

Martin Paletar is a consultant in the Policy & Regulation Team at DNV GL's Energy Advisory practice and based in Germany. The expertise he holds on energy related topics is broad and it includes academic, corporate and public sector experiences.

¹ Please note that Holger Ziegler is on paternity leave at the moment and will become available for this project at a later stage only.



In the natural gas sector, Martin has focused on EU policy coordination, pricing and contractual mechanisms of global gas markets and investment evaluation of a number of projects worldwide, in particular for LNG sector. He has authored and co-authored extensive studies on the EU's security of supply and the evolution of Europe's gas network. Amongst others, this can be seen in his work for the Institute of Energy Economics in Cologne where he co-authored a study 'The 2014/15 Ukrainian crisis: Europe's increased security position, natural gas network assessment and scenario simulations'. Martin remains a distinguished energy fellow at the Institute.

Prior to joining DNV GL, Martin worked in Business Strategy at Vattenfall where he was conducting strategic planning and providing policy advice. He also has experience on European energy policy coordination from the civil service. He has studied in the UK, Italy and France and holds a post-graduate degree from Sciences Po (Paris).

Nebojsa Filipovic

Since 1996, Mr. Filipović has been mostly involved in the power sector of former Yugoslavian countries and Balkan area. He is working as associated Senior Consultant in KEMA Consulting since November 2004. As a part of the DNV GL dedicated teams, Mr. Filipović supports different types of Clients (System Operators, Market Operators, Regulatory Authorities, Investment Banks, IFIs, etc...) helping them to realize fast, stable and secure business in Electricity and Natural Gas area.

Prior joining to DNV GL Mr. Filipović worked at EKC (Elektroenergetski Koordinacioni Centar) in Belgrade, a significant company in electricity transmission domain in Western Balkans region. At that time, EKC performed coordinating and accounting activities in so called 2nd UCTE Synchronous zone and was JIEL control block coordinator. There Mr. Filipović initially worked as System Control Engineer, and subsequently as Engineer for New Technologies, responsible for implementation of new technology solutions. Mr. Filipović focuses on system operations, wholesale and balancing markets, Renewable Energy, and design and implementation of operational IT systems for TSOs.

Mr. Filipović obtained degree Master of Science in Power Engineering at Faculty of Electrical Engineering in Belgrade.



5 CONTRIBUTION BY THE CUSTOMER

Elering AS, Conexus and Amber grid and DNV GL agree to cooperate in all areas of the project. The Clients agree to support DNV GL at all times and to their best endeavours. The Clients will ensure that all necessary contributions will be provided so that DNV GL will be able to deliver the project successfully, accurately, on time and at no costs to DNV GL. Amongst others, this includes:

- Nominating a contact person (single point of contact) responsible for all communication and coordination with DNV GL
- This contact person needs to be entitled to promptly make or cater for all decisions that are necessary for the project work and to guarantee successful delivery
- Timely and accurate provision of all information on paper and/or electronically that is needed to deliver the agreed project work
- The Clients will provide additional information, as requested, at short notice if needed
- All documents and other information will be provided in the English language.
- Provision of appropriate premises and work equipment for the organization of workshops.



6 MANAGEMENT SYSTEM

The DNV GL management system is an integrated quality health, safety and environment, and business administration management system.

DNV GL management system is certified against ISO 9001. Separate certificates cover DNV GL's business areas Maritime, Oil & Gas Energy, issued by the Dutch accredited certification body DEKRA Certification B.V.

DNV GL management system is certified against ISO 14001 and BS OHSAS 18001 by the German accredited certification body TÜV Rheinland Cert GmbH.

A description of DNV GL's quality, health, safety and environment policy and management system is provided in Appendix B.

APPENDIX A: ABOUT DNV GL

In 2013, a merger between DNV (Det Norske Veritas) and GL (Germanischer Lloyd) took place. Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organisations to advance the safety and sustainability of their business. Operating in more than 100 countries, nearly 15,000 professionals are dedicated to helping our customers in the maritime, oil & gas, energy and other industries to make the world safer, smarter and greener.



150
years

400
offices

100
countries

15,000
employees

We provide classification and technical assurance as well as independent expert advisory services. We also provide certification services to customers across a wide range of industries and supply software.

Combining leading technical and business expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. With our origins stretching back to 1864, our reach today is global.


DNV GL enjoys a reputation for integrity, reliability, and outstanding expertise.

In the Energy Industry

Under our new brand DNV GL - Energy, we have united the rich heritage of five well-known entities: DNV, GL, KEMA, Garrad Hassan and GL Renewables Certification. DNV GL's 2,500 energy experts support clients around the globe in delivering a safe, reliable, efficient, and sustainable energy supply.

DNV GL - Energy is headquartered in Arnhem, the Netherlands, with major offices throughout Europe, North America and China as well as Asia-Pacific, Latin-America and the Middle East.

In more than 30 countries, DNV GL - Energy specializes in providing world-class, innovative solutions in the fields of business & technical advisory, testing, inspections and certification, risk management, and verification. As an independent company with extensive expertise, we advise and support organizations along the energy value chain: generators, TSOs, DNOs, suppliers and end-users of energy, equipment manufacturers, as well as government bodies, corporations and non-governmental organizations.



Our extensive expertise covers:

- **Energy Advisory Services** in the electricity and gas market
 - DNV GL - Energy has a unique experience and combination of business and economic as well as technical know-how. We offer independent and vendor-neutral engineering services and consulting in the conversion, transmission, distribution and use of energy and all associated technical and accompanying commercial processes.
 - Management Consulting
 - Market and Regulatory
 - Heat and power plant technology
 - Transmission and distribution of electricity and gas
 - Control systems
 - Smart Grids, Smart Metering
 - Ecomobility
- **Renewable Advisory Services** for the renewable markets
 - Analysis, consulting, testing, data collection and proven expertise in the areas of onshore / offshore wind, solar, wave and tidalProject Development & Engineering
 - Measurements and testing
 - Engineering services
 - Asset Operations & Management
 - Measurements
 - Reports
 - Software
 - Market leader in renewables for over two decades
- **Sustainable Use with global services**
 - Programs and inspections for energy efficiency
 - 30 years' experience and market leading in Energy Efficiency Services
- **Testing, Inspections & Certification** for all electrical as well as renewable components and projects.

DNV GL is one of the leading companies in the energy industry that obtains its strength from the long lasting years of experience and independence. Our customers benefit from the innovation, the combination of economic and technical advisory services and the experience knowledge in testing, inspection and certification for major components and systems for which KEMA was renowned. Furthermore, customers also benefit from the wind certification and advisory services from DNV and GL, along with Garrad Hassan's leadership in renewable energy technology.

For more information please visit www.dnvgl.com/energy.

APPENDIX B: DNV GL MANAGEMENT SYSTEM

General

The DNV GL Management System (DMS) documents are sorted under 15 strategic areas as an index for the management system. The DMS seeks to be independent of the organizational structure, and able to show the main processes of the company.

The management system documentation consists of:

- The DMS – DNV GL's Management System documentation. This is a 2-tier system. The top tier is owned, issued and maintained at DNV GL Group level and is valid for all in DNV GL. The ownership of the various groups of strategic areas has been assigned to DNV GL Group directors, to ensure anchoring with top management, focus and development.
- Local Operating Procedures (OP's) which are specific for an operating unit, or part of the line organisation, i.e. Regional OPs.
- Country specific OPs which are valid for a country, typically covering employment items and general compliance with national legislation.

All management system documentation is available to all employees on the DNV GL Intranet.

DNV GL monitors, measures and improves the effectiveness of its management system on a continuous basis where opportunities for improvement are identified through internal and external audits, experience feedback, after-action reviews and importantly through dialogue with, and feedback received from our customers. The annual Management System Review is an important instrument in this regard.

DNV GL has a common tool for follow-up of all events such as audits, non-conformities, complaints and potential quality issues called Quality Event Tracker - QET. All quality events shall be registered in QET. QET facilitates the use of root cause analysis and ensures that events are handled and closed after proper actions have been taken.

Quality

Quality Policy

We will never compromise on quality or integrity.

We commit ourselves to:

- deliver in accordance with the industry's expectations
- continually improve our performance and professionalism

Quality Management System

The strategic areas most important in relation to quality of customer-facing activities and project deliverables are:

- Customer management

- Service lines
- Production
- Innovation, research and development
- IT and information management
- Quality and management system

Under Production there are governing documents addressing:

- Project management
(internal document: DMSE-5-1 Project management in the Business Area Energy)
- Internal verification of project work and approval of deliverables
(internal document: DMSE-5-2 Self-check, verification and approval of project deliverables)
- Performance of various categories of services
- Requirements to certain types of deliverable documents
- Competence management and requirements

Further document types are:

- DNV GL Service Specifications
- Internal Service Instructions
- Internal Service Guidelines

Quality Management System Certificate

The relevant certificate can be made available if required.

Health, Safety and Environment (HSE)

HSE Policy

- We know that our work is never so urgent or important that we cannot take time to do it safely. We feel confident and empowered to stop work and to intervene where inappropriate behaviour or unacceptable conditions are encountered.
- We identify and assess risks to the health and safety of people, property or the environment in our work. We ensure they are effectively managed and that areas for improvement are prioritised.
- We foster a culture where everyone is actively involved in setting a good example and pursuing, adopting and sharing good HSE practice.
- We develop, resource and implement HSE plans to deliver continual improvement in HSE performance. We openly report and appraise our HSE performance and measure our achievements against our plans and goals and take action to address shortcomings.
- We treat incidents including near misses and hazards and feedback from employees and customers as an important learning opportunity.
- We select our sub-contractors and suppliers based on their ability to provide services which meet our safety, health and environmental requirements.
- We work to the principles of the UN's Global Compact and participate in the World Business Council for Sustainable Development.
- We will visibly demonstrate leadership and commitment to high standards of health, safety and environmental performance.



HSE Management System

HSE is a separate strategic area, under which there are governing documents addressing:

- Environment aspects identification and management
- Emergency preparedness
- Implementation support and control processes, e.g. HSE risk assessment, HSE audits
- Health, e.g. occupational health, substance abuse
- Safety, e.g. field work, laboratory and test site, travelling, restricted travel areas
- Management and reporting

HSE Management System Certificate

The relevant certificate can be made available if required.

Research & Development

Innovative Through Research

DNV GL is continuously working on strategic research programs and projects in order to gain new knowledge and skills and develop innovative services for its clients based on the findings. Up to 5% of revenue is consistently allocated to a management and research fund for innovation projects. In 2014, the *Stifterverband für die Deutsche Wissenschaft*, one of the largest private promoters of science, awarded our research activities with its “Innovativ durch Forschung” (Innovative Through Research) seal of approval.



ABOUT DNV GL

Driven by its purpose of safeguarding life, property and the environment, DNV GL enables organisations to advance the safety and sustainability of their business. DNV GL provides classification and technical assurance along with software and independent expert advisory services to the maritime, oil & gas and energy industries. It also provides certification services to customers across a wide range of industries. DNV GL, whose origins go back to 1864, operates globally in more than 100 countries with its 15,000 professionals dedicated to helping their customers make the world safer, smarter and greener.

ADVISORY SERVICES (ENERGY)

DNV GL Dok.-Nr.:

Short Form Agreement

Section I - Cover Letter

"Customer"

Legal entity: Elering AS (on behalf of Elering AS; AS Conexus Baltic Grid; AB "Amber Grid")
Legal entity VAT No: Customer no.(id):
Contact Person: Ms. Kaira Särekanno Phone/ Fax / Mail:
Business Address: Kadaka tee 42, Tallinn, Estonia Invoicing Address:
Is Purchase Order No. required to process invoice: ☐ No ☐ Yes; P.O. No:

"DNV GL"

Legal Entity: KEMA Consulting GmbH
Legal entity VAT No: DNV GL Order No:
Contact Person: Phone/ Fax / Mail:
Business Address: Zanderstrasse 7, 53177 Bonn, Germany Section / Dept:

Work/Project

Project name:
Commencement date: Termination date:
Work location: Project no:

Scope of Work (the Work)

The scope of work is set out in the Proposal 162818 from 03.04.2018.

Remuneration, terms of invoicing, costs/expenses

The amount of compensation, the payment terms and other costs and expenses are set out in the Proposal 162818 from 03.04.2018.

Deliverables

(tick as appropriate)

☐ Report

☐ Other

The deliverables are set out in the proposal 162818 from 03.04.2018.

Special Conditions

The Special Conditions are set out in the Proposal as attached herewith 162818 from 03.04.2018.

This Agreement shall consist of: Section I - Cover Letter, Section II - General Terms and Conditions and the applicable attachments, which together constitute the integrated entire Agreement between the parties, superseding and replacing all prior agreements, understandings or representations relating to the subject matter hereof. The above listed documents in the Agreement shall be interpreted as one agreement and in case of any ambiguities or contradictions between the various documents, the documents shall take precedence in the order listed here: Agreed Special Conditions, the Cover Letter, the General Terms and Conditions and any attachments. No amendment and/or variation to the Agreement shall be considered binding or valid unless set out in writing and duly signed by the authorised representatives of both parties. Any terms and conditions included in any of Customer's purchase orders shall be disregarded unless explicitly agreed to and duly signed by the authorised representatives of both parties as amending specific terms of this Agreement. Should any provision of this Agreement be held to be invalid or unenforceable, such shall not affect the validity or enforceability of any other part or provision of this Agreement. Such provision shall be amended to the extent necessary to make the provision valid and enforceable, while keeping as strictly and closely as possible to the original wording and purpose of the provision. This Agreement is made in duplicate, one original for each party hereto. This Agreement shall be duly signed by the Customer's authorised representative prior to any commencement of the Work, failing which, the Customer acknowledges that DNV GL is entitled to postpone or cancel the performance of the Work.

Place:
Date:
For Customer

Place: (Place)
Date: (yyyy-mm-dd)
for DNV GL

(Name und Title in capital letters)

(Name und Title in capital letters)

(Signature)

(Signature)

(Name und Title in capital letters)

(Signature)